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Remarks

Reconsideration of the above-captioned application is respectfully requested. The allegation that the drawings must show a RAID in lieu of a single HDD is incorrect. The drawings indeed show a component (a HDD controller) that can execute the logic, and a RAID has at least one HDD controller. Furthermore, not every embodiment need be shown, but only those that are required for an understanding of the invention, see 37 C.F.R. §1.81. As disclosed on page 11, first paragraph of the specification, the present logic may be performed by a HDD or by a RAID; a separate drawing showing a "RAID" specifically thus would be identical to Figure 1 except that the text "HDD controller" would be replaced by the text "RAID", an unnecessary redundancy.

The objections to the specification have been cured herein. Formal drawings are filed herewith.

The provisional obviousness-type double patenting rejection based on USPA 10/674,093 is noted. Applicant observes that since this rejection is provisional, and since the other application has not yet been examined, it is unripe to file a Terminal Disclaimer which in any case should not be required after this amendment if this is the only remaining impediment to issue (see MPEP §804(I)(B)). Furthermore, the applied application and this application were filed on the same day; thus, the discussion in the Office Action on page 4 relating to "earlier filed claims" is irrelevant.

Claims 1, 2, 4, 10, and 11, of which Claims 1 and 10 are independent, have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al., USPP 2002/0071198 in view of Rosenblum et al. (non-patent publication submitted by Applicant). Claims 3 and 12 have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Payne et al., USPN 6,212,047, Claims 5 and 13

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have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Asano et al., USPP 2003/0147167, and Claims 6-8 and 14-16 have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Ono et al., USPN 5,872,905. Claims 9 and 17 have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Ono et al. and Holland et al., used as a teaching of a RAID system.

Independent Claim 18 and dependent Claim 19 have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Holland et al., Claim 20 has been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Holland et al. and Payne et al., Claim 21 has been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Holland et al. and Asano et al., and Claims 22-25 have been rejected under 35 U.S.C. 103 as being unpatentable over Liu et al. in view of Rosenblum et al. and Holland et al. and Ono et al.

To overcome the rejections, Claim 1 now recites that the log-structured file system uses an error correction code (ECC) block size larger than a physical sector size of the disk, with a cumulative ECC parity state between successive partial writes of an ECC block being retained as formerly recited in dependent Claim 5. Claim 10, in contrast, recites a limitation formerly set forth in dependent Claim 17, namely, that the log means uses a virtual address table (VAT) to remap sectors as required for shingled track writing.

The fact that Applicant has focussed its comments distinguishing the present claims from the applied references and countering certain rejections must not be construed as acquiescence in other portions of rejections not specifically addressed.

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Amended Claim 1

Of relevance to amended Claim 1 is the allegation that former Claim 5 was taught in Asano et al., paragraph 108. This appears to be incorrect. Paragraph 108 indeed teaches a "long block" ECC that includes "N" 512 byte sectors in which the check bytes of multiple encoders are summed to generate shared check bytes. Paragraph 108 distinguishes its method from an integrated interleaving technique by observing that the Asano et al. method works by summing check bytes, not data bytes.

There is no mention at all in paragraph 108 of Asano et al. of parity, much less that a cumulative ECC parity state between successive partial writes of an ECC block is retained as is otherwise recited in amended Claim 1. Indeed, because parity typically involves XORing "N" data bytes (not check bytes) to generate an extra (N+1) byte that subsequently can be combined with surviving data bytes to resurrect a lost data byte, paragraph 108 of Asano et al., which focusses on check bytes, plainly fails to implicate parity at all, much less in the way set forth in Claim 1. Apart from this, Applicant has been able to discern nothing in Asano et al. about successive partial writes, much less retaining anything between them, much less still retaining a cumulative ECC parity state. Claim 1 and its dependent claims are patentable.

Amended Claim 10

Of relevance to amended independent Claim 10 is the allegation in the Office Action that because Ono et al. teaches a VAT, and because Rosenblum et al. teaches a log, it would have been obvious to modify Liu et al. to arrive at a log means that uses a virtual address table (VAT) to remap sectors as required for shingled track writing. Applicant respectfully asserts that this rejection appears to impermissibly pluck isolated teachings from disparate references to arrive at amended Claim 10, because (1) the relied-upon VAT in Ono

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et al. is not used by a log, nor is there any suggestion that it be used in a log structure; and (2) the relied-upon log structure in Rosenblum et al. is not used in shingled writing as indeed spelled out on page 8, lines 7-9 of the present specification, nor is there any suggestion to do so.

Thus, to arrive at the claims, the rejections have found it necessary to allege, contrary to what the present specification teaches about Rosenblum et al. and without any prior art evidence of support, that Rosenblum et al.'s log can be used in shingled track writing. Then, the rejections must make a second order leap, making an unsupported observation that the VAT in Ono et al. can be used in a log despite Ono et al. nowhere appearing to mention the word "log" at all. Claim 10 and its dependent claims are patentable.

Original Claim 18

Because the Office Action fails to rebut, using evidence from the prior art or evidence as to the general knowledge in the art regarding shingled track writing, the teachings of the present specification that a log-structured file system as taught in Rosenblum et al. has not heretofore been suggested for use in shingled track writing, Claim 18 and its dependent claims are patentable.

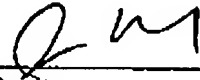
The Examiner is cordially invited to telephone the undersigned at (619) 338-8075 for any reason which would advance the instant application to allowance.

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